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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,615	03/01/2000	Douglas Duane Coolbaugh	BU9-99-190 (13020)	3878

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EXAMINER

NGUYEN, CUONG QUANG

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 12/05/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/576,615

Applicant(s)

COOLBAUGH et al.

Examiner

CUONG Q NGUYEN

Group Art Unit

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—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

P r i d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disp sition of Claims

- ☒ Claim(s) 1-30 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 29-30 is/are allowed.
- ☒ Claim(s) 24-25, 27-28 is/are rejected.
- ☐ Claim(s) 26 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of Group I, claims 24-30 in Paper No.4 is acknowledged.

Oath/Declaration

2. The oath/declaration filed on 03/01/00 is acceptable.

Drawings

3. The drawings are objected to by the PTO Draftsperson for the reasons noted on the attached Notice of Draftsperson's Patent Drawing Review, form PTO-948.

Information Disclosure Statement

4. The Information Disclosure Statement filed on 03/01/00 has been considered.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 24 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. (US 5,973,954).

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Regarding claim 24, Wu et al. discloses a semiconductor device including a poly-poly capacitor structure comprising: a first plate electrode (102) formed of SiGe polysilicon (Wu et al.'s col.5, lines 49-50); an insulator structure (82) formed on the first plate electrode; a second plate electrode (84) formed on the insulator structure. See Wu et al.'s Fig.7.

Regarding claim 25, Wu et al. teaches that the second plate electrode formed of polysilicon. Wu et al.'s col.4, lines 20-25.

Claim 27 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wu et al.

Wu et al. teaches that a gate electrode (78) of a FET formed of polysilicon (Wu et al.'s col.4, lines 11-12) which is the same material for forming the second plate electrode. See Wu et al.'s Fig.7.

Wu et al. does not teach that the second plate electrode is formed of polysilicon from the gate electrode (78) of the FET. However, the limitation "one said plate electrodes is polysilicon from a FET gate" is taken to be a product by process limitation, it is the patentability of the claimed product and not of recited process steps which must be established. Therefore, when the prior art discloses a product which reasonably appears to be identical with or only slightly different than the product claimed in a product-by process claim, a rejection based on sections 102 or 103 is fair. A product by process claim directed to the product per se, no matter how actually made, In re Hirao,

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190 USPQ 15 at 17 (footnote 3). See In re Fessman, 180 USPQ 324,326(CCPA 1974); In re Marosi et al., 218 USPQ 289,292 (Fed. Cir. 1983); and particularly In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final structure of the product "gleaned" from the process steps, which must be determined in a "product by process " claim, and not the patentability of the process. See also MPEP 2113. Moreover, an old or obvious product produced by a new method is not a patentable product, whether claim in "product by process" claim or not.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. in view of Lee (US 6,150,701).

Wu et al. teaches all the limitations of claims 24, 25 and 27 as shown above and further teaches that the semiconductor device is a DRAM device including a peripheral circuit region (Wu et al.'s col.2 lines 20-24) and the capacitor structure isolated from other regions by isolation regions (72). Wu et al.'s Fig.7.

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Wu et al. does not explicitly teach that the DRAM device further including a bipolar device region and a FET region, wherein the capacitor, bipolar device region and FET region are electrically isolated from each others by isolation regions.

Lee discloses a circuitry in a DRAM memory device comprising: a bipolar device region (Q3); a FET region (Q2), wherein bipolar device region and FET region are electrically isolated from each others by isolation region (a). See Lee's Fig.2, col.1 lines 12-22 and col.2 lines 37-45.

It would have been obvious to one of ordinary skill in the art to incorporate the circuitry as taught by Lee into Wu et al.'s DRAM device in order to stabilize the current-voltage characteristic of input pad in peripheral circuit region of the DRAM memory device. See Lee's Col.7 lines 1-6.

It is noted that, the capacitor structure in Wu et al.'s device isolated from other active regions by isolation regions (72), therefore it would have been obvious to one of ordinary skill in the art, when incorporating the circuitry as taught by Lee into Wu et al.'s device, forming the bipolar device region and FET region isolating from the capacitor by isolation region.

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Allowable Subject Matter

7. Claims 29 and 30 are allowed over the references of record because none of these references disclosed or can be combined to yield the claimed invention such as one of electrode plates of capacitor and one of electrodes of bipolar device comprise a first conductive pattern of SiGe material as recited in claims 29 and 30.

8. Claim 26 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims because none of references disclosed or can be combined to yield the claimed invention such as both of plate electrode are composes of SiGe polysilicon.

Conclusion

9. Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

10. Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to CUONG Q NGUYEN whose telephone number is

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(703) 308-1293. The Examiner is in the Office generally between the hours of 6:30 AM to 5:00 PM (Eastern Standard Time) Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor TOM THOMAS who can be reached on (703) 308-2772. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or 308-7724.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center Receptionists whose telephone number is 308-0956.


Cuong Nguyen

November 18, 2001